

## **Study Mobile phone interaction patterns among elderly and propose prototypes for easier screen based interaction**

### **Group 11:**

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### **Tasks done:**

- We were not able to conduct any interviews with elder people so we researched some interviews or survey based research papers and we found a most relative [Research Paper](#) and the survey which is given below in this report.
- Then we read some other papers related to mobile phone interaction among elderly people and found some problems and barriers that elder people face when they use mobile phones. We summarised this in the report.

### **Plan for next week:**

- Now we are planning to research and work on the solutions that were proposed in research papers for easy interaction.

## **Introduction**

The advancement in smartphones plays a vital role in everyday life because of their connection and computational power. The smartphone has a lot of potentials to perform various tasks; apart from making a call or sending texts, these tasks include Internet access, information sharing, and multimedia. The user interface of the existing smartphones is primarily complex and is developed by targeting mainly the young people and not the elders. Elderly users are neglected in the design phase of smartphone applications, and the designers do not concentrate on the needs and requirements of elderly people.

We found some of barriers:

- We found some major limitations like visual limitations, psychomotor limitations and cognitive limitations.
- Age-related problems, i.e., cognitive, physical abilities, memory decline, mental models, and sensory function, making it harder for them to interact with new technologies.
- The designers do not carefully design applications regarding elderly user needs and requirements.

## Survey

- Conducted by Silesian University of Technology
- The first part of the survey was prepared in order to learn about the characteristics of the person completing the survey
- The second part of the survey was prepared to examine the interaction of the user with the smartphone and consisted of five questions:

How do you unlock your smartphone?

How do you interact with your smartphone?

How do you generate an emergency signal?

What smartphone special features do you use (e.g. larger font)?

What improvements regarding the interaction do you expect from your smartphone?

- 40 people in the survey – 15 females and 25 males
- How long have you been using a smartphone?

22 people more than 3 years and 10 people 1 to 3 years. So they have lot of experience using phones.

- Making voice calls

They do it often. Only 1 of them rarely uses it.

- What do you use your smartphone for – SMS or Photo

The vast majority of respondents declared that they do.

- Web browsing

The distribution of responses is practically uniform here. It also means that the size of the group that does not use this service has significantly increased.

- Email

In the case of this question, the vast majority responded that they rarely use this feature.

- How do you generate emergency signal

Only 1 uses the SOS button. most frequently call the 112 emergency number, and the high score for the “Prefer not to reveal”.

- How do they solve problems?

The distribution of answers is fairly uniform. What may seem surprising is the result for a group that can cope without help. This can be explained by the considerable experience of the users surveyed.

- How do you unlock smartphones?

Only three people use either finger biometrics or face recognition. Also the result for the “None of the above” answer seems surprising and perhaps this group of users does not protect their smartphones at all.

- How do you interact with smart phones?

The vast majority use only the touch screen and only two people have declared that they use voice commands.

- open question about what special smartphone capabilities you use, the following responses were received:

Voice dictation.

Bigger font, higher contrast.

Bigger font (2 persons).

None.

Zoom.

Simplicity.  
Voice interaction.

- **Conclusion from survey**

The received answers confirmed that with time seniors acquire more and more experience in the use of mobile devices

Some smartphone functionalities (such as sending e-mails) are still not very popular among elderly people participating in the survey.

This result is an inspiration for further research and development, in particular in the field of design and implementation

Obtained results of the conducted survey form the basis for conducting in-depth research projects in the field of mobile interfaces designed to meet the needs of elderly people.